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ABSTRACT

This pamphlet explores the results of a study concerning what expert lecturers are aware of during their lectures. Results of interviews with seven college lecturers, recipients of university teaching awards, are reported, as are summary evaluations of each professor's classroom where an audio tape was made of that day's lecture. Each evaluation is described in terms of salient themes and compared to all remaining interviews to determine whether similar themes appeared across protocols. Five themes are discussed: (1) connection, relevance/isolation, irrelevance; (2) excitement, interest/boredom, dullness; (3) continuity, flow/interruption, fragmentation; (4) clarity, precision/confusion, ambiguity; and (5) control, order/spontaneity, freedom. Each theme appears in all of the protocols produced and excerpts from each professor's interviews are provided for each theme. The pamphlet also examines, using the five themes as a background, how professors experience such aspects of teaching as questions, notetaking, jokes, and tests and grading. (GLR)

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Teaching-Learning Issues

Hermes in the Classroom:

Interpreting What Expert College Lecturers Say About Teaching

HE0 26 934

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Prepared by the Learning Research Center/The University of Tennessee

This number of *Teaching/Learning Issues* has been prepared by Howard R. Pollio, who is Distinguished Service Professor of Psychology and Research Associate at the Learning Research Center at The University of Tennessee, Knoxville.

You cannot teach a man anything;
you can only help him to find it
within himself.

Galileo

Learning Research Center
The University of Tennessee, Knoxville

In Greek Mythology, Hermes was the messenger of the gods. This means he was to bring the word of the gods to human beings in a form they could understand. Hermes' name derives from the Greek word *herma*, meaning a mound of stones or rocks used to mark a boundary. These two images come together in the idea of an interpreter: a person who occupies the boundary between people inhabiting different cultures and speaking different languages and who is able to get the message across from one to the other. These images also come together in the new/old discipline of hermeneutics, best described as the rigorous study of interpretation.

The "old" part of this discipline deals with the proper way to translate *The Bible* from one language and culture to another. The "new" part concerns the more mundane problem of how we know what other people mean when they write or talk. In philosophical language this issue has been called the "problem of other minds"; in more ordinary terms, how we know what other people mean when they say what they say.

The process of interpretation is different from that of inference, and here, the etymology of both words is helpful. The word *interpret* derives from the words *inter* (between) and *pruet* (to go), giving rise to the original Latin meaning of interpret as a "go-between" or negotiation. A present usage that stresses this meaning is that of a translator who serves as a go-between capable of negotiating linguistic differences. Good translating does not add to what was said; it simply attempts to allow one person to understand what another has said.

The word, *infer*, has an entirely different history: it comes from the words *in* (in) and *ferre* (to carry or bear). The historical meaning of *infer* is to carry in something that was not there in the first place. Thus the difference between an interpretation and an inference (psychoanalysts please note) is that the one brings out

what was there whereas the other carries in something that was not there. The god Hermes was concerned with interpreting what the gods said to human beings, not with helping them infer what the gods might have had in mind.

The importance of a hermeneutic approach to understanding becomes quite important when we want to learn from the expertise of other people. The general strategy is to ask some expert to describe what he or she does in some situation we care about, for example, when he or she teaches a college class. To provide our experts as much latitude as possible in helping us interpret their experiences, it is necessary to interview them in such a way as to let them tell us what we need to know rather than to ask them what we think, a priori, we would like to know. Interviews of this type, which have been called phenomenological interviews by Thompson, Locander and Pollio (1989), operate on the assumption that the course of dialogue must be set by the expert and, with the exception of an opening question, the interviewer should come to the conversation with no prior questions (or even presuppositions) about the topic. These guidelines suggest that an ideal interview occurs when the interviewer's questions and/or clarifying statements provide an opening for the expert's lengthier and more detailed answers.

Since the interviewer is a partner to the conversation, he or she always brings a certain perspective both to the interview and its interpretation. Clarifying one's presuppositions prior to interviews of this type is a necessary step in good phenomenological interviewing. Since it is not possible to exclude presuppositions entirely, they must be addressed as explicitly and openly as possible. A "bracketing interview," in which the one who will do the later interviewing is interviewed, allows this. Once out in the open, presuppositions are to be held in abeyance to allow for an openness to differing views. This process of bracketing—of interrogating one's preconceptions and expectations—is fundamental to hermeneutic analysis of any and all types.

After all interviews, including the "bracketing interview," have been transcribed, interpretation begins. The transcribed interviews become the text, *The Bible*, from which interpretation must ensue. To keep interpretation as free from bias as possible, interview texts are initially interpreted within the context of a group composed of the researcher and other individuals familiar with hermeneutic procedures. The job of the group is to question the assumptions each member employs in interpreting a given text. If one person is unaware that he or she is working from a preconception, other members of the group are in a position to notice this.

Members of the group always have available to them a complete interview transcript and whatever interpretation is proposed is always evaluated by referring back to the transcript as the final authority.

One way of evaluating any specific interpretation is to ask whether it is at the level of the respondent's lived experience. A thematic meaning can only emerge from respondent descriptions, not from abstract or theoretical conjecture: remember, interpret, don't infer. Each group member, therefore, must be able to show where in the transcript the respondent's own words support the interpretation, and only interpretations supported in this way are considered.

A crucial question to be asked of any specific interpretation is whether it takes into account previous passages of the transcript. No part of an interview is to be taken out of its overall context. Interpretation is a continuous back and forth process of relating parts to the whole, and earlier sections of an interview transcript must always be re-evaluated in light of what follows later in the interview.

In hermeneutic interpretation, the process of going back and forth between the complete transcript and specific sections occurs in two phases. First, the interpretive group seeks an individual understanding of each interview, which involves viewing each transcript as a whole and relating separate passages of the transcript to its overall content. After each transcript has been interpreted, a new part-to-whole phase begins in which separate interviews are related to each other in an attempt to identify common patterns. These patterns are referred to as themes, or the meanings conveyed by the texts.

Although themes are identified across interviews, support for each theme must be found in individual transcripts. Even at the level of cross-participant themes, the researcher must be able to point to specific passages in an individual transcript that afford a clear statement of the theme. The results of a hermeneutic analysis of interview protocols culminate in a description of salient themes capturing the experience of participants in the situation of interest.

The Present Research Program

With this conceptual and methodological machinery now in place, it becomes possible to approach the specific question of this study: What are expert college lecturers aware of during their lectures? To qualify as an expert for purposes of this research, only recipients of university teaching awards were asked to serve as participants; generally speaking, such individuals were recipients

of a major award at The University of Tennessee within the last three years. Each participant was teaching a lecture class during the term the interview took place. Taking into account professors on sabbatical, there was a total pool of nine participants. Each was contacted; and when he or she agreed to be interviewed, a specific appointment was set up.

Each interview was preceded by a visit to the professor's classroom where an audio tape was made of that day's lecture. This was done in order to have a concrete example in mind for the interview that followed. Generally speaking, the interview took place on the same day as the lecture; in two cases, it took place on the following day.

In accord with the rules of phenomenological interviewing, only one question was brought. The opening question asked of Professor 108 was typical: "What I'd like for you to do is to think about the lecture you just gave and tell me what you were aware of when you were teaching that class." To provide some feel for one professor's specific response, Dr. 108 began as follows:

> *Well, in no particular order of importance, hmn, there are the extremely varied levels of interest as I perceive them on the faces of students I'm lecturing. So that I can look at some faces and my initial reaction is these students are really interested in what I have to say and they think, you know, it's important to listen and they probably will remember what I am saying . . .*

An audio tape of the interview was transcribed verbatim. Unfortunately, two of the nine tapes were not usable due to poor quality leaving seven tapes for purposes of analyses. Following the transcription of all seven tapes, two of the tapes—one for Professor 100 and one for Professor 103—were dealt with in detail by the interpretive group and a descriptive narrative was prepared for each professor.

Once the description was completed, it was re-presented to the interpretive group. At this point, group members asked that the specific portions of the protocol be noted so as to guarantee that a fair and complete description had been attained. Once the protocol passed this evaluation, summaries were prepared which again were brought back to the group for reactions and approval.

The summary for Professor 103 was as follows:

> Professor 103 is particularly aware of student activity and values that type of activity which occurs in a well-functioning, laboratory setting. Within this context, he feels able to "visit" with students and to talk informally with them about their

ongoing work. Within the context of his lecture, all activities are evaluated in terms of their ability to yield "classroom conversation," or that aspect of laboratory activity capable of being transferred to the lecture setting. Questions, note taking, homework, grades, tests, classroom silences, and even student diversions ("getting off-track some of the time") are used and evaluated in terms of their effect on the present level of classroom "dialogue" or "conversation." Student characteristics, together with his own past history of teaching the relevant subject matter, combine to set an informal value for the level of conversational activity he expects in the classroom.

The comparable summary for Professor 100 was as follows:

Professor 100 experiences himself as a dramatic story teller with roots in the tradition of public recitation characteristic of early cultures. He is sensitive to the nature and changing demands of his audience, and regularly monitors student reaction. When such reactions are not congenial to him (such as blank stares), he varies his approach by changing the order of topics or by asking questions designed to "animate" the class. He is aware of students who don't share his values and will attempt to make them question their own values or will "dismiss them rather quickly."

He is aware of, and values, a freewheeling narrative style which "talks around things"; he is not interested in conveying an orderly body of fact but prefers to get across the "spirit" of his subject so that students will "think about it" and its meaning for them. He is strongly aware of time in terms of markers such as tempo, rhythm, and the beginnings and endings of class. This sensitivity extends beyond the single lecture, and he views the semester "as a story" continuing across classes. He values those times where he experiences himself as spontaneous, irreverent and lively; he views orderliness as deadening both to him and his students. The structure of his class is provided by narrative flow, which he values and to which he is clearly attuned. Professor 100 is strongly aware of himself and his actions, and it is fair to say that the audience plays him as much as he plays the audience.

With these summaries in hand, an examination was made of the remaining five tapes. Across all seven tapes, the average length of transcription was about thirteen single-spaced typed pages; the longest was 24 pages and the shortest, seven pages. The median number of pages was ten.

Each text was examined in detail, and an attempt was made to provide a detailed description as well as a more concise summary. Following this, each protocol was described in terms of salient themes and compared to all remaining interviews to determine whether similar themes appeared across protocols. When all relevant cross-sortings and cross-comparisons had been completed, five themes were found to capture the "essence" of professorial experience in the classroom. These themes may be described in the following terms, with their order corresponding to the degree to which they were stressed by this group of professors.

Theme 1: Connection, Relevance/Isolation, Irrelevance
Theme 2: Excitement, Interest/Boredom, Dullness
Theme 3: Continuity, Flow/Interruption, Fragmentation
Theme 4: Clarity, Precision/Confusion, Ambiguity
Theme 5: Control, Order/Spontaneity, Freedom

Each theme appeared in all of the protocols produced by this group of professors. To provide some feel for the different ways in which themes were described by specific professors, excerpts from each will be presented as well as an overall description summarizing the salient points.

Theme 1: Connection, Relevance/Isolation, Irrelevance

(1) Professor 100: *Recitations . . . are dialectical events where a dialogue takes place between the reciter and the audience. The audience is as important to the performance as the reciter . . . .There is a close relationship between what I'm doing, . . . and the audience is important to it.*

(2) Professor 102: *There's a strong relevance in the subject matter . . . . So, in a sense if you compared this lecture against others . . . this one touched everyone . . . . Therefore the relevance of this was about as strong as anything I could bring up in this course or will bring up later.*

(2a) In another part of his interview, Professor 102 noted: *I respond to them [students] too; I respond to students that respond to me and it works, it builds and, if it doesn't work, it all goes downhill.*

(3) Professor 105: *And I like to get discussions started . . . and if it doesn't get going I ask "What's the matter with this class; what's the matter with me . . . ." I tend to feed off the students and the students tend to feed off the teacher. And I think a lot*

of teachers have made the mistake and not realized that it works both ways.

(4) Professor 107 reports that when she invited an outside lecturer she *was aware of students . . . being very much in tune with what she [the visitor] was saying . . . . I could see the student nodding her head affirmatively; nodding with her and indicating they really are in tune.*

(5) Professor 108 reports experiences of disconnection, which he tries to remedy. *I know that for foreign students the humor sometimes escapes them because it is strange to them, and so when I have international students . . . I try various things to get them connected or involved; you know, if I think there are Latinos, I speak [some] Spanish, if there are Southeast Asians, you know, I speak to them in Indonesian . . . just, in effect, to show that I recognize they are from a foreign country . . . [despite this] sometimes the humor just doesn't connect at all.*

This final quote indicates two major ways in which the theme of connection or relationship came up in the interviews: one, as characterizing the relationship between the students and the professor and two, as characterizing the relationship between some aspect of content and the student. In the former case, connection was described in terms of such human activities as dialogue, conversation, and/or questions and answers. Three professors also spoke about audience-performer effects, where student reactions were experienced as affecting and directing the professor's classroom activities. The second case, usually involving the terms "relevant" or "relevance" in one form or other, concerned an awareness by the professor of an attempt to connect content to student(s). The theme of relationship thus operates directly in terms of interpersonal matters as well as more indirectly in terms of content. In both cases, the experience concerns one of connection or non-connection, with the former experienced as desirable and the latter as something to be concerned about.

Theme 2: Excitement, Interest/Boredom, Dullness

(6) Professor 103: *I don't mind silence or the lack of response in class if everybody is up to speed . . . . [Silence] could mean they didn't have any questions because they didn't have any questions, but [sometimes] when it is dead silence in the classroom, I could sense there wasn't enough activity going on.*

(7) Professor 105 noted that *a lot of times when I don't get a*

discussion going I will tend to bore a class . . . and pretty soon I'm just going through the motions a little bit like they are.

(8) Professor 108 noted: *I'm aware of the varied levels of interest . . . in the faces of the students as I'm lecturing. So that I can look at some faces and my immediate reaction is these students are really interested . . . . And I look at some faces and you know they're just blank . . . you know they're just not interested and they're just not there.*

(8a) He also noted: *Most of the time when I look out I'm getting their attention and . . . I work hard at that. I try to make sure that I get their attention and get their interest and keep their interest and so I bring in examples . . . .*

(9) Professor 102: *There was no real downpoint.*

The theme of excitement, and its opposite, boredom, generally plays itself out in terms of the lecturer's experiences of interest, attention, or awareness in the faces of students. Such excitement, or its lack, usually concerns activity directed toward the instructor as he or she goes about presenting the material. For some professors, however, excitement or interest is evoked by having the class engage in an activity designed to interest, involve, or stimulate them. These activities range from asking students to share something about their lives to performing a demonstration or experiment. Finally excitement or interest is frequently generated by telling an anecdote or joke which is designed, in the words of one professor, to "perk things up." There seems to be nothing more discouraging or noticeable than a "sea of blank faces" focusing on something other than the present lecture.

Theme 3: Continuity, Flow/Interruption, Fragmentation

This theme basically concerns issues of time; in some cases the professor describes the class as "flowing," and the material as being continuous across an entire semester. In this case, each class is experienced as incomplete and as flowing into the next in a sensibly continuous way. Some instructors also report being aware of the tempo or rhythm of a lecture, class, or series of classes.

Time is also experienced in terms of interruptions and/or limits. Instructors regularly report looking at their watches to see how much time remains and/or to see if there is enough time left to change topics. They also are aware of the need to limit coverage of a particular topic and to end even a particularly good discussion due to the pressure of time. Occasionally, there is some concern with "what comes next," as when the professor starts a story and

doesn't remember what the point was or how it leads to the next topic.

Specific examples of the theme of Continuity/Interruption are as follows:

(10) Professor 100: *I feel discussions are a counterpoint, a kind of addition to the rhythm of the class. [When I use slides] they allow me to repeat things . . .[and] to say [them] again [as well as provide] a way to end the class or to start it.*

(10a) Professor 100 notes, in a different segment of the interview: *My classes don't end the way many classes must end, the topic is not over; we're gonna continue next time. And when we start today we picked up from last time . . . . In teaching it's that we're just continuously going; that's why it really doesn't matter where we are in the syllabus; we just do whatever is next . . . . I don't think I've ever been ahead but if we get behind it doesn't matter; we know where we are . . . . In a way I just tell them a story . . . anyway the whole thing is a story, isn't it?*

(11) Professor 102, in discussing his lecture for that day, noted: *When I give out notes, I know up front where I was going . . . and the lecture pretty well flowed from one end to the other.*

(11a) He further notes: *Sometimes when I start I really don't know the end point for that day.*

(11b) He is also aware of the end of the class as a limit: *I made the mistake [today] of giving a clue that I was finished when I really wasn't . . . . Once you've lost their train of thought, and you see some of them starting to put their books in the satchel, you've had it.*

(11c) Finally, he is aware that each topic *falls within the stream of information going from the first of the quarter [sic] to the last. You have to put information in the right place, and you wouldn't see that [information] dropping in on any one day, but, in the scheme of things, if the timing is right it helps . . . . You just don't pull [things] out of the air and say here is a block . . . . There's some degree of continuity . . . [that] . . . contributes to the flow of things.*

(12) Professor 107 reported being aware of time as a limit or as interruption, as well as of the need to schedule things: *You can really lose your audience if you don't give them a break.*

(12a) She also noted: *I was very much aware of time. I looked at my watch and knew we had one [more] situation to cover . . . [and] . . . I mentioned that to the group and said: Can you hang on . . . because I preferred going ahead and getting things wrapped up . . . and then giving them a longer break . . . [and] . . . starting with the next section . . . You can't let things hang . . . . You have to tie them back together and then [I take] the opportunity . . . to pull things together.*

Experiences of continuity and limits were quite salient to these professors. Although all reported being attuned to continuity, some were almost equally attuned to interruptions or limits. Particularly noteworthy in this regard is the end of a class, which is experienced as a limit by some and as a transition to the next class by others. Although only two professors explicitly mentioned the tempo or rhythm of a lecture, many did talk about "slow points" suggesting that tempo may be experienced by some professors as related both to issues of excitement and to those of flow.

Theme 4: Clarity, Precision/Confusion, Ambiguity

This theme captures a concern with being clear, making things clear, and with clearing up confusion. Of all of the themes, this one was most concerned with content and with the student's ability to understand something once the professor had clarified the difficult, confusing, or unclear points in some particular topic or issue. Within this theme, professors regularly talk of "wanting students to get the concepts" and students are experienced as "becoming clearer" in terms of their ability to ask good questions and/or to mirror or anticipate the professor's line of clarification as he or she lectures or asks a series of (clarifying) questions.

(13) Professor 106 described his experiences in the following terms: *I could see . . . they clearly didn't understand all the words I was using . . . so I tried to back up and take those words just one at a time and illustrate them, illustrate them, illustrate them . . . . I go into class with a number of key categories and concepts, and I try to be sure to cover them . . . I adapt what I'm saying to try to get the points over in the lecture understood.*

(13a) Professor 106 then detailed what could go wrong in the lecture and ended up by describing the following experience: *Yeah, but what you learn from lecturing is that students can hear one thing if you say something else. I mean what they hear is not necessarily what you say . . . so that's why I'm so*

intent on watching their response to see if they're . . . . responding or hearing something other than what I'm saying.

Whereas Professor 106 was aware of trying to get concepts across in a clear way as well as with the overall clarity of his lecture, Professor 102 was much more aware of the contradictory nature of advice given by the "experts in his field" as well as of the fact "that [my field] has so few clear answers." This latter point was developed in the following quote:

(14) *It's risky to cover a field that has so few answers because I don't think students like that . . . they would rather hear me say—here is what you need to know . . . [and] I don't intend to do that . . . although it is my job to bring some degree of certainty out of the confusing possibilities.*

In one of the longer passages in his interview, Dr. 102 also noted:

(14a) *Well, what we're saying is there were certain things to be said about the confusion . . . in the literature. And yet out of that confusion comes some degree of certainty and precision. But, I knew it was confusing, I knew about the history and even though my notes that I'm using in front of the class, well they are essentially the same as theirs, I've got a few marks on mine that they don't have that I've added onto 'em. And having done this before, I have a fair sense of the problem areas . . . . If there was normally only one bottom line, and it was based fully on scientific information I wouldn't feel bad about giving it to them, but just as quick as I give that to them they go home and read a magazine that doesn't agree with it 'cause it doesn't say what I said. Now they've got a decision. First of all realize there are two people saying different things. There's that professor and here's something I'm reading . . . the answers are different . . . . There is a world of contradictory information. Some of it's contradictory, there's no doubt about it, some of it's really not different information, its just two ways of saying the same thing.*

(15) Professor 107 also was quite aware of the need for clarity when she noted *that you can't just leave it hanging. You have to have some way to tie it back together [and] that gives me the opportunity to clarify things.* She then went on to describe a specific example in her class where she wanted *to make sure that they get it:*

For example, the problem [practitioners] have in terms of

wanting to infer [some single meaning] to someone's [actions]. So I made a big point of helping them see that the two different groups had seen the same [thing] but had labeled it different . . . . And I tried, you know, to help the whole group delve into that.

Themes of clarity come up in many other ways, for example, when students make "an unclear report" that has to be clarified by the instructor. In general, however, many professors report attempting to model a clear way of looking at things to help students decide what is important and what is unimportant about the material. Although some professors reported simply "monitoring body language" to see if students understood, others reported a more active role in clarifying concepts either by summarizing a discussion or by asking further questions. Of all of the major themes, the concern with clarity targeted subject matter and communication more directly than any other theme.

Theme 5: Control, Order/Spontaneity, Freedom

The theme of control seemed to represent the interpersonal aspect of order or clarity (Theme 4). Whereas clarity was almost always described in terms of content, control (and its opposite, spontaneity) was almost always described in interpersonal terms as something "between" the instructor and the student. Many descriptions of control took place in conjunction with experiences of spontaneity or freedom. Most professors reported being aware of a dialectical relationship between spontaneity and control, although some also reported experiencing control not only as their prerogative but as a necessary tactic for getting certain things to happen e.g., using a pop quiz to get students to read the material. In general, however, Theme 5 did not seem to describe a set of opposite experiences—one valued and one disvalued—but rather one of a dialectical relationship between the two polarities. Both control and spontaneity, and their interaction, were described in positive terms.

(16) Professor 105 described his experience of the dialectic between control and spontaneity in the context of classroom discussion. *I feel like I do a much better job when there's discussion even though it may take us off on a tangent . . . . That's fine with me because I know they will get [a lot] out of it . . . [With a discussion] . . . you can go off in different directions and as long as you stay within certain boundaries about what the class is about, that's fine. You can go from one line to the other like in football; it's played boundary to boundary . . .*

[and] . . . we're using the whole field . . . . So, it doesn't make a lot of difference if we don't finish the discussion as long as we stay on subject . . . [and] it's up to me as a teacher to make sure . . . [it] doesn't go out of bounds. I don't care where it goes within a certain area as long as we stay there, and if you don't get finished you don't have too much to pick up on. But if you get completely off subject . . . then you have to go back and do it all over again.

(17) Professor 103 talked more specifically about control; in his particular case it concerned his view of tests and grades and their role in controlling student activities. *[By giving a test early in the term] . . . I would usually get their attention that they weren't studying enough. And I found that by weighting the first test so that it was [only a small] fraction of the grade there wasn't much of a penalty for finding out about [my exams] and, simultaneously, I could make them an offer they couldn't refuse. [In addition] . . . I feel that I'm probably going to have to develop some situations in order to bribe more discussion in class.*

(18) Finally, Professor 100 talked about issues of control and freedom in terms of classroom activity as well as in terms of what he seeks to present to students. In terms of personal activity he noted: *I don't think orderliness is particularly necessary [because] it is processes and methods that are important. . . . I don't know exactly what I do, but I don't do what is expected of me . . . . I tend to break the mold . . . . My favorite questions are the ones I can't answer.*

(18a) In terms of his approach to course content, Professor 100 notes: *I tend to talk around the subject, to corral it . . . to let them see what it is . . . . I mean I like not herding the kids . . . into a corral. I know a lot of people who do that, including some of the best teachers . . . . I never fake students out; I never draw them down this path and then just have them learn things because I like it . . . What am I saying? Something that has nothing to do with my effectiveness as a teacher is my commitment to students doing the work; they do it, but if they don't want to . . . that's fine with me . . . I have zero interest in doing it [the work] for them.*

The theme of control always seems to concern a balance between the antithetical themes of order and chaos, freedom and constraint, spontaneity and playfulness. The regular juxtaposition of these themes in the protocols of professors who like a greater ratio

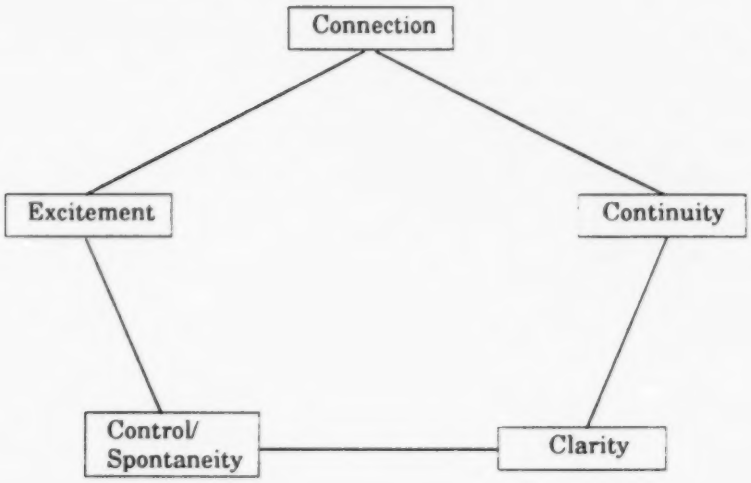
of order to spontaneity as well as in the protocols of those who like a greater ratio of disorder to control suggests that something of fundamental significance is captured by both aspects of the theme. Without **inferring** too much, it seems possible to define this "something" as creativity, or the proper relationship between discipline and freedom.

The experience of a dialectical relationship between opposite sides of Theme 5 sometimes appeared in the descriptions of other thematic pairings. For example, Theme 2 concerns an attempt to avoid boredom and create interest or excitement. Similarly, Theme 3 encompasses a joint focus on continuity and interruption, whereas Theme 4 describes the experience of moving from confusion to clarity. Thus, in four of the five themes, professors described a shifting set of experiences in which sometimes one and sometimes the other polarity of the theme was salient. It may be helpful to think about these themes as analogous to certain perceptual demonstrations in which the viewer is able to see either a vase or faces, a young girl or an old lady, a tree or a motorcycle. Themes describing college lecturing seem no less shifting than those of perceptual experience, and classroom experience may be characterized by reversible thematic figures that change continuously throughout the course of a lecture.

To capture this complexity, it is important not to consider each theme as a separable element in a complex mosaic; rather it seems better described as a more integral aspect of a total pattern that is sometimes salient and many times not. To present such a view of professorial experiences in the college lecture hall, a single figure has been drawn (see Figure 1 on page 17) in which each corner defines one of the five themes. The use of a geometric figure is meant to suggest that the total experience is a complex pattern of themes, one (or more) of which may be salient one moment but not the next. Just as it is possible to focus on one corner of the figure and have the remaining corners recede from awareness, so too it is possible to be aware of a single theme, providing we do not lose sight of the fact that each theme is always only one aspect of some larger pattern defined by relationships among all five themes. The total figure defines the professor's experience of the classroom; not each theme considered by itself.

This emphasis on pattern suggests other ways of describing professorial experiences in the college lecture hall—possibilities which also appeared in the dialogues. Consider, for a moment, the word **sharp** which was used by by three participants in terms of Theme 4, Clarity vs. Confusion. Although no one explicitly used the word **dull** to describe his or her experience of the classroom when

Figure 1. Pattern of Themes Describing the Experiences of Expert College Lecturers



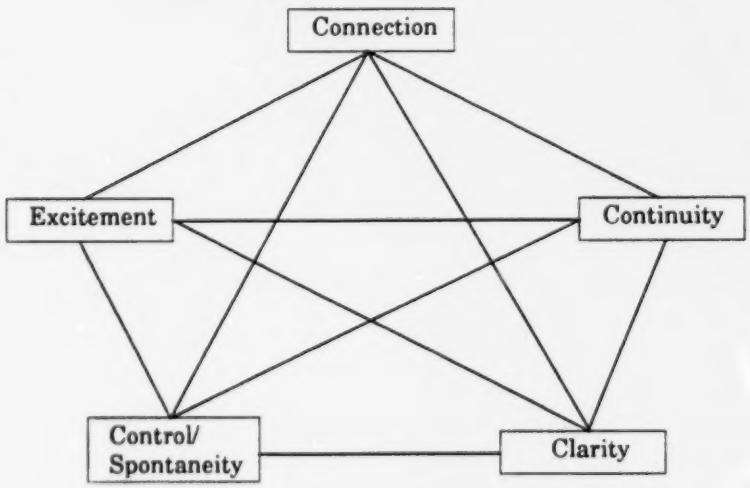
things were not sharp, it seems clear that such a contrast could relate not only to the theme of clarity but also to that of boredom (Theme 2). A dull explanation by the professor, or a dull response by the student, is likely to yield a dull time.

Other adjectives appearing in the protocols offer a similar possibility of cross-theme mapping. Consider the pair **fast/slow**, which was usually used in describing experiences of tempo (Theme 3) but which also could be used in describing experiences of excitement and/or boredom (Theme 2). Similarly, the word **synchrony**—which was used in connection with Theme 1 (connection)—also describes the experience of an event in time (Theme 3). In a similar way, describing some event as **spontaneous**, as breaking the usual order, could apply equally to Theme 5 (Control and Spontaneity) as well as to Theme 3 (Continuity and Interruption). Finally, the word **orderly** could, and did, apply to Theme 4 (Clarity) and Theme 5 (Control) since events that are orderly are usually clear—i.e., in order.

The fact that many of the words and phrases used to express one theme could express a second and even a third theme suggests a more complex pattern of relationships among themes than is presented by Figure 1. If, in fact, we go back to almost any of the quotes cited, it is possible, in addition to the primary or salient theme, to find intimations of one or more additional themes. In one of the very first excerpts, for example, Professor 102 noted that "I respond to students that respond to me and it works, it builds, and if it doesn't work it goes downhill." Although within the context of the total interview Professor 102 was primarily aware of the back-and-forth response between himself and the class, the element of excitement also was clearly there: "if it works it builds, if it doesn't, it goes downhill."

These considerations suggest that Figure 1 does not capture cross-thematic relationships with sufficient concern for possible interconnections between and among themes. For this reason, Figure 2 was developed to suggest that each theme is connected to all remaining themes. While this figure describes a structure that still

Figure 2. Pattern of Interconnections Among Themes Describing the Classroom Experiences of Expert College Lecturers



has focal points, it has been designed to stress the total pattern of possible cross-thematic interconnections.

One implication to be drawn from Figure 2 is that triads of themes may sometimes be figural in awareness. For example, Professor 107 gave her class a break when she felt that the point of class discussion had become clear. At that moment she reported being aware of the clarity achieved, her connection to the students and the students to the concept, and of the fact that the present moment offered a natural boundary for a break. Similarly, when Professor 106 described his and the class's excitement over finally getting some concept in a clear way, he was aware of the three themes of excitement, connection, and clarity.

A Mercifully Brief Note Concerning What the Experience of a Bad Lecture is Like

Since four of the five themes have both a desirable and undesirable aspect, it is possible to use the "negative" pole of each theme to identify a poor or downright bad lecture. If we take the fifth theme of spontaneity/order to describe an additional aspect of what constitutes an effective lecture, a "bad" lecture may be characterized as one which is experienced as disconnected, confusing, boring, fragmented and totally lacking in the creative dialectic between order and spontaneity. While this description may not capture all that may be "wrong" with a lecture, it does go a long way toward telling us how such lectures may be experienced.

Questions, Notes, Anecdotes and Tests/Grades

Using the five themes as a background, it is also possible to describe how professors experience such paraphernalia of teaching as questions, notes, jokes, and so on. Leading the list of activities specifically mentioned by participants was the topic of questions (and answers). In general, questions were viewed as a way of relating to students by getting a "discussion" or "conversation" going and/or by getting students to "connect" to the material. Questions also were described in terms of control and clarity since they allowed the professor to decide if a student was paying attention and/or understanding the concept. Some professors asked questions "to which I don't know the answer" to get the excitement of a discussion going and to remind students that the professor was listening and attempting to learn along with them.

It seems fair to say that while all five themes were described in regard to the professor's experience of classroom questions, questions were viewed primarily as a way of relating to students and of relating students to course content. Sometimes this connec-

tion was achieved by getting students to express the relevance of some concept to the rest of the material or to themselves. Sometimes, it was used as an evaluative device to determine if students understood and, if students had, there was an experience of satisfaction and/or relief by both the instructor and the students.

Professors consider questions as one way in which to move things along in class. As Professor 103 put it, *I ask questions to create a flow.* Professor 104 noted: *Questions tell me that the students are with me, [that] they are really in tune and getting the stuff.* Finally, Professor 106 noted: *Questions often remind me that I need to pay attention to keep my teaching on a sophomore, and not a graduate, level.* Despite the fact that it is possible to think of questions primarily in terms of evaluation and/or clarity, professors frequently describe them in terms of connecting to students by way of engaging them in the [exciting] business of classroom conversation.

A second classroom activity that was mentioned quite frequently concerned notes—as taken by students and/or as provided by the lecturer. In the former case, notetaking was experienced as an "interruption to the flow of the discussion and/or lecture." To alleviate this problem, some professors hand out pre-packaged notes. This strategy sometimes has unfortunate consequences, and one professor (Professor 103) *wanted to try a class without them (the notes) because to some extent the notes had already become the class, and I was afraid that what was happening is that they [the notes] were driving me entirely.* A second way in which notetaking was experienced as distracting was described by Professor 105: *In a class where . . . there is a lot of notetaking they're very concerned about getting me word for word. They want to make sure everything I say is in their notes so that when they take a test they can parrot it back to me . . . and I don't want that.*

Whether or not the instructor hands out notes or attempts to "walk students through the material," notes are experienced as taking away from the immediacy of the class. What seems to happen is that when issues of clarity and/or order conflict with experiences of connection, instructors report favoring connection over clarity most of the time. When notes facilitate connection, they are experienced in a positive way; for example, when they are viewed as providing both professor and student with a structure to the lecture that helps us "know where we're going." Only one professor experienced notetaking as providing a "clue they are paying attention," and here, as before, the emphasis was on connection at least as much as on content.

Anecdotes, stories, and jokes were also mentioned by participants. In general, these events were described in terms of Theme 2,

excitement, and its less desirable partner, boredom. Sometimes humor was used to get things going and to connect with students, as Professor 107 noted: *to get discussions started, I tried to inject a little humor . . . . I attempted to lighten the mood a little bit, get a little chuckle, and then bring the group with me.* Sometimes humor is used to reframe the student's experience of the classroom and, even, college learning. Professor 108 noted: *Generally I get a pretty good response [to humor] but there are a few sourpusses or whatever you want to call them. You know, some young people take all of this university stuff much too seriously. If the learning process can't be something you enjoy, if it's nothing but a chore, I think that's very regrettable. I'm sorry about that.*

Anecdotes and stories, even when not humorous, were experienced as personalizing the classroom although they must be used carefully, as Professor 106 noted: *I think you can relate your own experience quite a bit when working with the students, and they like to get to know something about you . . . but sometimes if you overly personalize it, they will be more aware of you than the subject matter.* Professor 108 noted in regard to stories and examples: *I use examples from the real world to draw students in . . . . I talk about the football team, the athletics department, and whatever I can to try to get them to realize that the kinds of things that I am talking about here . . . are not out on the theoretical frontier area someplace.* Finally, Professor 100 notes that *anecdotes animate the class and serve to relate the students to the material and the material to the student.*

As in the case of both questions and notetaking, the use of jokes, anecdotes, and stories seems to have a double-meaning for the lecturer. One of these meanings concerns the theme of excitement and boredom; the second, once again, that of connection. Not only do stories, jokes and anecdotes 'enliven' the classroom, they also are experienced as helping students to connect both with the material and the instructor. Although it is possible to worry that an overuse of these activities will direct the class away from course material and even obscure things, the general experience is that stories, anecdotes, and jokes not only do not distract but serve to connect and enliven the class.

This group of professors also spoke about tests and, to a lesser extent, grades. In fact, considering the ubiquity of grades, their specific (brief) mention by only two professors seems significant. Where professors did mention grades it was in terms of their estimate of the class; i.e., they would say things like *I can't think this class has a higher (lower) GPA than any other class I've taught.* The GPA was used as a general mode of characterizing the class; in a

sense, it functioned as a metaphor for student level. It is difficult to decide whether this group of professors was truly uninterested in grades or if the interview did not elicit such discussion.

What we do know from the protocols is that six of the seven respondents did offer some spontaneous comments on tests although, similar to their response to grades, most of these comments were made in passing. Some professors described tests as a nuisance that confined their freedom and which they did to "meet requirements." The coercive sense of tests were described by Professor 100 and by Professor 105. Professor 100 noted that *sometimes we have to speed up so we can have our test on time.* Professor 105, in an excerpt previously presented in regard to notetaking, described tests as a disruptive aspect of the classroom:

> *In a class where there's a . . . lot of notetaking, they're very concerned about getting me word for word. They want to make sure everything I say [is in] their notes, so that when they take a test they can parrot back to me exactly what I said. And I don't want to do that . . . . [What I like] is for the student to be able to reason through the answer and write . . . in their own words.*

Professors 103 and 106 had a somewhat different, and more sanguine, view of tests. For Professor 106, tests serve to clarify what the students hear in what you said:

> *Sometimes the students hear one thing when you know you said something else. You sometimes don't know this until you do a quiz and then you get back something that is very different . . . absolutely the opposite of what you said.*

Professor 103 uses tests as a way of clarifying for students, particularly early in the term, what his expectation are for them in the course. He feels that tests get students to do things. Like Professor 106, he is aware of their role in clarifying what did (should) go on in class and as a way of controlling learning activities. There is also some small emphasis on the test's ability to "get the student's attention."

> *I think after their first test, they get a sense of what my expectations are . . . . I think that will help draw things along . . . I would usually get their attention relative to the fact that they had not been studying at the right level by weighing the first test so it was the smallest fraction of their grade. Simultaneously, I could make them a proverbial offer they couldn't refuse. I gave them a makeup exam last night for those who*

wanted to take it. They didn't have to take it, and all but two showed up to retake it. I haven't graded them yet, but my sense is some very serious studying took place the past weekend.

The conclusions that must emerge from this look at some of the more mundane aspects of the college classroom is how interconnected they are and, perhaps more importantly, how clearly the lecture hall is an interpersonal world. Each of the various activities—notetaking, questions, anecdotes, and tests—was described by participants in terms of its inter-person meaning for the professor and his or her students. Whenever the theme of clarity, control, excitement, or even tempo emerged, it almost always was referred to the more pervasive theme of connection. Everything this set of expert professors experience and/or do in the college lecture hall was described as thoroughly saturated with the interpersonal meaning of that action for both the professor and the student.

Individual Differences Among Professors

A sufficient number of excerpts have been presented for each of our seven professors to provide some feeling for what they are like as people. Without getting too specific, or personal, it is possible to characterize individual professors in terms of which of the five major themes they emphasized most in their interview. While all professors discussed all themes, some were more salient for them than others. To help characterize these professors, consider results presented in Table 1.

In this table, each professor is listed down the side of the table and each of the five major themes is presented across the top. The numbers 1-5, which appear in the interior cells of the table, are meant to convey the degree to which each theme was emphasized, with the number 5 meaning "strongly emphasized" and 1 "weakly emphasized." Some professors emphasized all themes quite strongly, others emphasized only one or two. To stay away from the touchy business of providing a psychological characterization of each professor's classroom experience, specific descriptions are left as a task for the reader. What is important to note is that the themes of Connection (Theme 1), Excitement (Theme 2) and Clarity (Theme 4) were most salient to this group of expert professors.

The World of the College Lecture

Within educational research, a new topic first emerged in 1977, which was concerned with evaluating teachers' interactive thoughts and decisions (see Clark and Peterson, 1986, and Kagan,

Table 1: Degree to Which Each of the Professors Emphasized Each of the Themes

Professor	Theme				
	Connection	Excitement	Continuity	Clarity	Control/ Spontaneity
100	4/5	5	4/5	1	4
102	4/5	3	2	5	1
103	4	5	1	1	3/4
105	4/5	5	2/3	4	1
106	4	1	3	5	3/4
107	4/5	4	3	4	4
108	4	5	3	1	2
No. of 4's and/or 5's	7	5	1	4	2(4)

Note: *1 means weakly emphasized; 5, strongly emphasized*

1991, for a summary of this work). Basically this work attempted to describe what elementary, middle and high school teachers describe thinking about as they teach their classes. Although such research was pursued from a decidedly cognitive orientation (what teachers "think about" and "decide") results of these studies share a good deal of similarity with the present one.

Despite using procedures and coding systems quite different from those used in this study, one major finding emerged across both sets of results, namely, that "the greatest percentage of teachers' interactive thoughts were concerned with the learner [with] the percentage [of such reports] between 39% and 50% (Clark and Peterson, 1986, p. 272)." If we look at some of the specific examples coded into other categories used in this work, we note that pre-college teachers often discussed being aware of making the material relevant to the student:

I wanted them [the students] to see the connection between the 'Sh' sound and [the letters] S, H, that they all had S-H's in them.

I wanted them [the students] to identify the senses that they were using.

Although it is difficult to know exactly how to code all of the

categories described by Clark and Peterson, two of their categories, "context" and "instruction," seem to deal with issue of clarity:

At this point here I wanted to focus in on the idea of Japan being today an industrial nation, rather than an agricultural nation.

I thought after I explained it to her, 'I didn't make that very clear.'

In going through this work on teacher thought processes in the pre-college classroom, it is clear that the categories used in these studies are thematically comparable to those emerging from conversations with expert college lecturers. This congruence of result suggests that the elementary school, the middle school, the high school, and the college classroom share a great many similarities in terms of what teachers are aware of during the course of teaching. If one were to specify a single theme as pervasive it would be that of "connection." The world of the elementary school classroom, no less than that of the college lecture hall, is a world of connection and relation; connection between student and teacher, student and student, and student and content. To miss the powerful effects of connection in situations where learning takes place is to miss a major aspect of the educational process. Everything flows from a desire for connection: excitement, clarity, continuity, and spontaneity. To overlook the central significance of relationship, in all of its various meanings, is to view the classroom solely in terms of content. This perception is at variance with that emerging from the present set of interviews and the relevant research literature.

This paper began with Hermes, and it seems reasonable to end with him. The one thing to be said for sure about Hermes is that he is the god of the in-between. This is true whether he brings the word of Zeus to you and me or forms a boundary between two pieces of land. Learning, college learning, takes place in the in-between, and no symbol could more forcefully serve to remind us that connection, relevance, and relationship are significant aspects of what the world of student learning is all about, especially if we take as our text the words of some of its more skillful practitioners at all levels of the educational enterprise.

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